UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 7, 2008

Mr. Patrick L. Paquin
GM, Engineering & Licensing
Energy*Solutions*
140 Stoneridge Drive
Columbia, South Carolina 29210

SUBJECT: REVISION 23 OF CERTIFICATE OF COMPLIANCE NO. 9196 FOR THE MODEL NO. UX-30 PACKAGE

Dear Mr. Paquin:

As requested by your letter dated October 29, 2008, enclosed is Certificate of Compliance No. 9196, Revision No. 23, for the model No. UX-30 package. Changes made to the certificate are indicated by vertical lines in the margin. The staff's Safety Evaluation Report is also enclosed.

Those on the attached list have been registered as users of the package under the general license provisions of 10 CFR 71.17 or 49 CFR 173.471. This approval constitutes authority to use the package for shipment of radioactive material and for the package to be shipped in accordance with the provisions of 49 CFR 173.471.

If you have any questions regarding this certificate, please contact me or Michele Sampson of my staff at (301) 492-3300.

Sincerely,

Eric J. Benner, Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-9196
TAC No. L24285

Enclosures: 1. Certificate of Compliance No. 9196, Rev. No. 23
2. Safety Evaluation Report
3. Registered Users List

cc w/encls. 1 & 2: R. Boyle, Department of Transportation
J. Shuler, Department of Energy

NRC FORM 618
(8-2000)
10 CFR 71

U.S. NUCLEAR REGULATORY COMMISSION

CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES

1 a CERTIFICATE NUMBER	b REVISION NUMBER	c DOCKET NUMBER	d PACKAGE IDENTIFICATION NUMBER	PAGE		PAGES
9196	23	71-9196	USA/9196/AF-96	1	OF	3

2 PREAMBLE

a This certificate is issued to certify that the package (packaging and contents) described in Item 5 below meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."

b. This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported

3 THIS CERTIFICATE IS ISSUED ON THE BASIS OF A SAFETY ANALYSIS REPORT OF THE PACKAGE DESIGN OR APPLICATION

a ISSUED TO *(Name and Address)*

EnergySolutions
140 Stoneridge Drive
Columbia, South Carolina 29210

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION

Duratek, Inc., application dated June 9, 2005, as supplemented.

4 CONDITIONS

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

5.

(a) Packaging

(1) Model No.: UX-30

(2) Description

Overpack for 30-inch uranium hexafluoride (UF_6) cylinders. The overpack is a right circular cylinder constructed of two stainless steel shells with the volume between the shells filled with 6-inch thick foam (7.8 - 9.8 PCF). A stepped and gasketed horizontal joint permits the top half of the overpack to be removed from the base. The package "halves" are secured with ten indexed, cross-locking "ball lock" pins. The overpack is 43.5" in diameter by 96" long. The maximum gross weight of the package is 8270 lbs.

Two types of 30 inch uranium hexafluoride cylinders may be carried in the UX-30 overpack. These are (1) an ANSI N14.1 Standard 30B cylinder, or (2) an ANSI N14.1 Standard 30C cylinder.

The ANSI N14.1 Standard 30C cylinder is essentially a 30B cylinder equipped with a Valve Protective Cover (VPC) that bolts over and protects the cylinder valve during transport. The VPC is a special design feature that provides additional assurance against the inleakage of water to the containment system and is an enclosure that retains any leakage.

(3) Drawings

The Model No. UX-30 packaging is fabricated in accordance with Duratek, Inc., Drawing No. C-110-B-57922-0002, Sheets 1 through 3, Rev. 3.

(b) Contents

(1) Type and form of material

Unirradiated uranium, in the form of UF_6, with a U-235 mass percentage not to exceed 5 percent

(2) Maximum quantity of material per package

5,020 pounds UF_6 contained in an ANSI Standard N14.1 30B or 30C cylinder. The maximum H/U atomic ratio for the UF_6 is 0.088.

(c) Criticality Safety Index (CSI)

Criticality safety index for the UX-30 overpack containing a standard ANSI N14.1 30B cylinder	5.0
Criticality safety index for the UX-30 overpack containing a standard ANSI N14.1 30C cylinder	0.0

6. The ANSI standard 30B, 30-inch diameter UF_6 cylinder, must be fabricated, inspected, tested and maintained in accordance with a) American National Standard N14.1-2001 or an earlier version of ANSI N14.1 in effect at the time of fabrication or b) American National Standard N14.1-2001 or an earlier version of ANSI N14.1 in effect at the time of fabrication and ISO 7195:1993(F). Cylinders must be fabricated in accordance with Section VIII, Division I, of the ASME (American Society of Mechanical Engineers) Boiler and Pressure Vessel Code and be ASME Code stamped.

7. The ANSI N14.1 Standard 30C cylinder (new or retrofitted cylinders) must be fabricated, inspected, tested, and maintained in accordance with ANSI N14.1-2001 Addendum 2-2004.

8. When the optional 4 lid lifting clips are used instead of the top lugs, the top lid (cover) must be lifted with a spreader bar (saddle).

9. In addition to the requirements of Subpart G of 10 CFR Part 71:

(a) Prior to each shipment, the weather/dust seal gasket between the upper and lower shells must be inspected and must be replaced if inspection shows excessive wear or any defects to the gasket.

(b) Each packaging must meet the Acceptance Tests and Maintenance Program of Chapter 8 of the application, as supplemented.

(c) The package shall be prepared for shipment and operated in accordance with the Operating Procedures of Chapter 7 of the application, as supplemented.

(d) Prior to each shipment, the stainless steel components of the packaging must be visually inspected. Packagings in which stainless steel components show pitting, corrosion, cracking, or pinholes are not authorized for transport.

10 The 30-inch diameter UF_6 cylinder valve and plug threads may be tinned with ASTM B32, alloy 50A or Sn50 solder material, or a mixture of alloy 50A or Sn50 with alloy 40A or Sn40A material, provided the mixture has a minimum tin content of 45 percent.

11. Transport by air is not authorized.

12. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.

13. Revision No. 22 of this certificate may be used until November 30, 2009.

14. Expiration date: February 28, 2011.

REFERENCES

Duratek Inc., application dated: June 9, 2005.

Duratek Inc., supplements dated: June 30 and September 9, 2005.

Energy*Solutions* supplements dated: October 29 and November 6, 2008.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Eric J. Benner, Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Date: 11/7/08

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION REPORT

Docket No. 71-9196
Model No. UX-30 Package
Certificate of Compliance No. 9196
Revision No. 23

SUMMARY

By letter dated October 29, 2008, as supplemented November 6, 2008, Energy*Solutions* requested a revision to Certificate of Compliance No. 9196 for the Model No. UX-30 package. Energy*Solutions* requested changes to the authorized contents to explicitly allow transport of unirradiated uranium, in the form of uranium hexafluoride (UF_6), with a U-235 mass percentage not exceeding 5 percent. Additionally, in 2006, Energy*Solutions* acquired Duratek, therefore, Certificate of Compliance No. 9196 is being transferred from Duratek to Energy*Solutions*.

Based on the statements and representations in the application, as supplemented, the staff agrees that the changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

EVALUATION

Energy*Solutions* requested revision of Certificate of Compliance No. 9196 for the Model No. UX-30 package by letter dated October 29, 2008, as supplemented.

The following revisions to the certificate have been made:

The certificate holder, Item No. 3(a), has been changed from Duratek to Energy*Solutions*. Energy*Solutions* acquired Duratek, and has accepted responsibility for the completeness and accuracy of the statements and representations of the previous certificate holder, Duratek. Energy*Solutions* will be responsible for maintenance of the certificate and Safety Analysis Report for the package design in accordance with the requirements of 10 CFR 71.91(c). Energy*Solutions* has indicated that the records for this design will be maintained at the same location where the records have been maintained by Duratek, in Columbia, South Carolina.

Condition No. 5(b)(1) and (2) have been revised to clarify that natural or depleted UF_6 is authorized for transport, in addition to UF_6 enriched up to 5 weight percent in the U-235 isotope. The UX-30 package was evaluated for UF_6 enriched to 5 weight percent in the U-235 isotope, which has the same physical and chemical properties as natural and depleted UF_6. Natural and depleted UF_6 are defined as non-fissile, and therefore, criticality is not a concern.

Condition No. 12, which allowed an alternative package identification number with the -85 designation, was deleted in its entirety because it was no longer needed.

As a consequence of the removal of Condition No. 12, the previous Conditions No. 13 – 15 were renumbered 12 – 14, respectively.

Condition No. 13 was modified to authorize use of the previous revision of the certificate for a period of approximately one year.

CONCLUSION

The Certificate of Compliance has been revised to transfer the certificate from Duratek to Energy*Solutions* and to include natural and depleted UF_6 in the authorized contents. Based on the statements and representations in the application, as supplemented, the staff concludes that the change does not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9196, Revision No. 23,
on November 7, 2008.